REMARKS

Summary

The Application has been carefully reviewed in light of the Office Action dated December 26, 2007. In this response, claims 5, 13, and 19 are amended, no claims are canceled, and no claims are added. Accordingly, claims 1, 5, 12, 13 and 16-19 are pending in the application. Reconsideration and further examination is respectfully requested.

Claim rejections under 35 U.S.C. § 112

Claims 5, 13, 17 and 19 are rejected under 35 U.S.C. §112, first paragraph. In particular, the Office Action alleges that the limitation "and reference face luminance" has no support from the specification. Amended independent claims 5, 13, and 19 includes the limitation "and reference face luminance corresponding to a luminance range of the face". The above-noted elements are supported in the specification, for example, as "LidealMin" and "LidealMax". For example, as disclosed in paragraph [0146] of the present specification, "LidealMin and LidealMax, respectively, are an upper limit value and lower limit value of the desirable luminance range of a face". In this regard, proper support of the above-noted element is provided in the specification. As such, withdrawal of the rejections of claims 5, 13, and 19 under 35 U.S.C. § 112 is respectfully requested.

In addition, the features recited in claim 17 are also supported by the present specification. For example, paragraph [0146] discloses "the gamma (γ) value is calculated from the representative luminance Lface and target luminance Ltarget of the face region". As such, Applicants respectfully request withdrawal of the rejection of claim 17 under 35 U.S.C. § 112.

Claim rejections under 35 U.S.C. § 103

Claims 1, 5, 12, 13, 17, and 19 are rejected under 35 U.S.C. 103(a) over U.S. Patent No. 6,493,468 (Matsuura), in view of US Published Application No. 2001/0052928 (Imagawa), and US Patent No. 6,460,127 (Akerib). Applicants respectfully traverse the above-noted claim rejections.

Turning to the specific language of the claim, independent claim 1 recites, "…a gradation correction based on the highlight point, the shadow point, a target highlight point and a target shadow point… an exposure correction based on a histogram of the representative luminance…". More specifically, the present invention recited in claim 1 teaches, a <u>gradation correction</u> is based on the highlight point and the shadow point, which are calculated from a histogram of <u>an image </u>(emphasis added); an <u>exposure correction</u> is based on a histogram of the representative luminance, which is based on a histogram of <u>a face region </u>(emphasis added).

Turning to the art rejections, the Office Action conceded, and Applicants agree, that Matsuura does not disclose "the detecting means, for detecting a face region in the image, and determining means for determining a representative luminance… The histogram of the face region… second generating means… and correcting means…" (page 4, Office Action). Instead, the Office Action relies on Imagawa and Akerib for teaching the above features.

While Imagawa may teach extracting a face image, nowhere is Imagawa seen to disclose or suggest "the histogram of the face region being corrected based on the highlight point and the shadow point". The Office Action asserts that the above-noted element is disclosed in Matsuura. Applicants strongly disagree with the Examiner's assertion because Matsuura merely discloses a highlight point correction unit that corrects the highlight point of the image to ensure gradation characteristics in the highlight area (col. 9, lines 19-22, Matsuura). However, Matsuura does not disclose or suggest <u>correcting the histogram of a region of an image</u> (i.e., histogram of a face region), using the highlight point and shadow point of the image. As such, Applicants respectfully submits that Matsuura and Imagawa, either taken alone or in combination, are not seen to teach "determining a representative luminance of the detected face region based on a histogram of the face region, the histogram of the face region being corrected based on the highlight point and the shadow point", as recited in claim 1.

Assuming *arguendo* that Matsuura teaches "gradation correction" and Imagawa teaches "exposure correction", as disclosed in claim 1. There is still no motivation or suggestion in Matsuura or Imagawa to combine the gradation correction and exposure

correction. According to an aspect of the present invention, while the applied references may teach gradation correction <u>OR</u> exposure correction separately, the proper image correction, according to the present invention, cannot be achieved by using either gradation correction or exposure correction separately. Rather, the present invention corrects the image <u>based on both gradation correction and exposure correction</u>.

The other applied art, namely Akerib, is not seen to remedy the foregoing deficiencies of Matsuura and Imagawa. Furthermore, as discussed in the previous response, Akerib does not provide specific processing steps regarding face recognition. In fact, Akerib merely discloses face recognition as an example of signal processing. As such, Akerib is not seen to disclose or suggest, *inter alia*, "…determining means for determining a representative luminance of the detected face region based on a histogram of the face region, the histogram of the face region being corrected based on the highlight point and the shadow point…". Also, while Akerib mentions exposure correction, Akerib is not seen to provide specific process steps regarding exposure correction. As such, nowhere is Akerib seen to disclose or suggest "generating an exposure correction based on a histogram of the representative luminance".

Based on the foregoing remarks, Applicants respectfully submit that the applied arts, either taken alone or in combination, do not teach at least the above-noted elements of claim 1. Hence, the applied arts are not seen to render claim 1 obvious. Claim 1 is therefore believed to be in condition for allowance. As such, Applicants respectfully request the Examiner to withdraw the rejection and indicate claim 1 as allowable at the Examiner's earliest convenience.

In addition, independent claims 12 and 18 include substantially similar features as that of amended independent Claim 1 and are rejected for the same reasons as claim 1. Therefore, claims 12 and 18 are also believed to be in condition for allowance for at least the reasons discussed above with respect to claim 1. As such, Applicants respectfully request that the Examiner withdraw the rejections of claim 12 and 18, and indicate that claims 12 and 18 are allowable at the Examiner's earliest convenience.

Turning to the specific language of amended independent claim 5, claim 5 recites, "…setting a target luminance based on the representative luminance and reference face luminance corresponding to a luminance range of the face…" Applicants respectfully

traverse the rejections of claim 5 because the applied references are not seen to teach at least the foregoing features of claim 5.

The Office Action alleges that Matsuura teaches "setting a target luminance based on the representative luminance". However, the target luminance of Matsuura is different from the target luminance of the present invention. Specifically, the target luminance of Matsuura is calculated based on the <u>average luminance and the highlight and shadow areas</u> (col. 2, lines 23-24, Matsuura), whereas the target luminance of the present invention is based on the <u>representative luminance</u>, which is calculated from the detected face region, <u>and reference face luminance</u> corresponding to a luminance range of the face.

The other applied art, namely Akerib, is not seen to remedy the foregoing deficiencies of Matsuura. Furthermore, as discussed above with respect to claim 1, both Matsuura and Akerib do not teach correcting an image based on both the gradation correction and the exposure correction.

Based on the foregoing, Applicants respectfully submit that the applied arts, namely Matusuura and Akerib, either alone or in combination, are not seen to disclose or suggest at least the above-noted features of amended independent Claim 5. Claim 5 is therefore believed to be in condition for allowance. As such, Applicants respectfully request the Examiner to withdraw the rejection and indicate Claim 5 as allowable at the Examiner's earliest convenience.

In addition, amended independent claims 13 and 19 include substantially similar features as that of amended independent Claim 5 and are rejected for the same reasons as Claim 5. Therefore, claims 13 and 19 are also believed to be in condition for allowance for at least the reasons discussed above with respect to Claim 5. As such, Applicants respectfully request that the Examiner withdraw the rejection of claims 13 and 19, and indicate that Claim 13 and 19 are allowable at the Examiner's earliest convenience.

The other pending claims remaining under consideration in this application are each dependent from the independent claims discussed above and are therefore believed to be in condition for allowance for the same reasons. Because each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merit is respectfully requested.

Petition for Extension of Time

      Applicants petition for a one (1) month extension of time, extending the period for response to the Final Office Action (mailed December 26, 2007) from March 26, 2008 to April 26, 2008. Submitted herewith is a payment to cover the petition for one month extension of time for large entity.

CONCLUSION

      Applicants respectfully submit that all of the claims pending in the application meet the requirements for patentability and respectfully request that the Examiner indicate the allowance of such claims.

      Any amendments to the claims which have been made in this response which have not been specifically noted to overcome a rejection based upon prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

      If any additional fee is required, please charge Deposit Account Number 502456.

      Should the Examiner have any questions, the Examiner may contact Applicants' representative at the telephone number below.

Respectfully submitted,

4/24/2008

Date

/Trevor Chuang/

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